

In the Claims

Please cancel claims 1-13 and 27 without prejudice, amend claims 14-21, 23, 25, 26 and 28, and add new claims 29-33, per the following:

LISTING OF CLAIMS

Claims 1 to 13. (canceled)

2. ~~14~~. (currently amended) A multi-mode receiver according to claim ~~43~~ ¹~~19~~, wherein said first IF channel includes means one or more stages for amplifying pulse amplitude modulated signals.

3. ~~15~~. (currently amended) A multi-mode receiver according to claim ~~43~~ ¹~~19~~, wherein said first IF channel includes means one or more stages for amplifying and limiting phase shift keyed signals.

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4. ~~16~~. (currently amended) A multi-mode receiver according to claim ~~43~~ ¹~~19~~, wherein said second IF channel includes means one or more stages for amplifying and limiting spread spectrum modulated signals.

5. ~~17~~. (currently amended) A multi-mode receiver according to claim ~~43~~ ¹~~19~~, wherein said second IF channel includes means one or more stages for producing digitized signals in response to analog spread spectrum signals applied to an input of the converter second IF channel.

6. ~~18~~. (currently amended) A multi-mode receiver according to claim ~~17~~ ⁵, including wherein the stages of the second IF channel include a quadrature demodulator ~~coupled to an input of said converter~~, and a pair of matched digital filters coupled to corresponding outputs of the demodulator.

1. ~~19.~~ (currently amended) A multi-mode receiver ~~according to claim 13,~~ for detecting desired radio frequency (RF) signals having relatively wide and narrow bandwidths about a common RF center or carrier frequency, comprising:

a front end stage having an antenna input adapted to connect with an antenna responsive to signals over a RF band that includes the desired RF signals, a preselector for amplifying the signals input by the antenna and including a wide band RF filter having a pass band sufficient to pass both of the desired wide and narrow bandwidth signals about the center RF frequency, and a mixer for converting signals output by the preselector to frequencies within an intermediate frequency (IF) band;

a first IF channel coupled to an output of the front end stage and including a narrow band IF filter having a pass band of sufficient width for passing first IF signals corresponding to the desired narrow bandwidth signals, while rejecting signals corresponding to undesired interfering signals at frequencies in the vicinity of the desired narrow bandwidth signals;

a second IF channel coupled to an output of the front end stage and having a wide band IF filter with a pass band of sufficient width for passing second IF signals corresponding to the desired wide bandwidth signals; and

a processor coupled to the first and the second IF channels for demodulating and processing the first and the second IF signals;

wherein said first IF channel is coupled to the output of said front end stage through the wide band IF filter of the second IF channel.

7. ~~20.~~ (currently amended) A multi-mode receiver according to claim ~~13~~ ¹~~19~~, wherein the wide band RF filter of said preselector has a 3-dB bandwidth of about 20 MHz.

8. ~~21.~~ (currently amended) A multi-mode receiver according to claim ~~13~~ ¹~~19~~, wherein the pass band of the wide band RF filter of said preselector is centered at about 1030 MHz.

9. ~~22~~⁸. (original) A multi-mode receiver according to claim ~~21~~⁸, wherein said wide band RF filter has about 65 dB rejection for RF signals at 1008 MHz and at 1052 MHz.

10. ~~23~~. (currently amended) A multi-mode receiver according to claim ~~43~~¹ ~~18~~, wherein the narrow band IF filter of the first IF channel has a 3-dB bandwidth of about 7.5 MHz.

11. ~~24~~¹⁰. (previously presented) A multi-mode receiver according to claim ~~23~~¹⁰, wherein the narrow band IF filter has about 85 dB rejection at frequencies corresponding to RF signals at 1008 and 1052 MHz.

12. ~~25~~. (currently amended) A multi-mode receiver according to claim ~~4~~¹ ~~18~~, wherein the front end stage includes one or more overload limiting diodes operatively connected between said antenna input and the wide band RF filter of said preselector.

13. ~~26~~¹⁵. (currently amended) A multi-mode receiver according to claim ~~43~~¹⁵ ~~28~~, wherein the front end stage includes one or more overload limiting diodes operatively connected between said antenna input and the wide band RF filter of said preselector.

27. (canceled)

13. ~~28~~¹. (currently amended) A multi-mode receiver according to claim ~~43~~¹ ~~18~~, wherein the second IF channel comprises a limiter coupled to an output of the wide band IF filter, and the wide band IF filter is configured to reject potentially interfering signals by an amount sufficient to prevent the limiter from being captured by the interfering signals.

14. ~~28~~. (new) A multi-mode receiver for detecting desired radio frequency (RF) signals having relatively wide and narrow bandwidths about a common RF center or carrier frequency, comprising:

a front end stage having an antenna input adapted to connect with an antenna responsive to signals over a RF band that includes the desired RF signals, a preselector for amplifying the signals input by the antenna and including a wide band RF filter having a pass band sufficient to pass both of the desired wide and narrow bandwidth signals about the center RF frequency, and a mixer for converting signals output by the preselector to frequencies within an intermediate frequency (IF) band;

a first IF channel coupled to an output of the front end stage and including a narrow band IF filter having a pass band of sufficient width for passing first IF signals corresponding to the desired narrow bandwidth signals, while rejecting signals corresponding to undesired interfering signals at frequencies in the vicinity of the desired narrow bandwidth signals;

a second IF channel coupled to an output of the front end stage and having a wide band IF filter with a pass band of sufficient width for passing second IF signals corresponding to the desired wide bandwidth signals; and

a processor coupled to the first and the second IF channels for demodulating and processing the first and the second IF signals;

wherein the second IF channel comprises a limiter coupled to an output of the wide band IF filter, and the wide band IF filter is configured to reject potentially interfering signals by an amount sufficient to prevent the limiter from being captured by the interfering signals.

16. ~~30~~. (new) A multi-mode receiver according to claim ~~28~~¹⁴, wherein said second IF channel includes one or more stages for amplifying and limiting spread spectrum modulated signals.

17. ~~31~~. (new) A multi-mode receiver according to claim ~~29~~¹⁴, wherein the wide band RF filter of said preselector has a 3-dB bandwidth of about 20 MHz.

18. ¹⁴32. (new) A multi-mode receiver according to claim ¹⁴29, wherein said second IF channel includes one or more stages for producing digitized signals in response to analog spread spectrum signals applied to an input of the second IF channel.

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19. ¹⁸33. (new) A multi-mode receiver according to claim ¹⁸32, wherein the stages of the second IF channel include a quadrature demodulator, and a pair of matched digital filters coupled to corresponding outputs of the demodulator.
